R E P O R T R E S U M E S

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STATEMENT BEFORE THE GENERAL SUBCOMMITTEE ON EDUCATION OF THE SUBCOMMITTEE ON EDUCATION AND LABOR, HOUSE OF REPRESENTATIVES, THURSDAY, JUNE 9, 1966.

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THE ENACTMENT OF THE VOCATIONAL EDUCATION ACT OF 1963 PROVIDED A NEW PHILOSOPHY IN VOCATIONAL EDUCATION WHICH IS RESULTING IN A MAJOR EXPANSION AND REDIRECTION OF THE PROGRAM ACROSS THE NATION. THE ADMINISTRATION OF THE PROGRAM HAS EVOLVED INTO A SYSTEMATIZED APPROACH AND PROCEDURE WITH SIGNIFICANT FEEDBACK INTO THE SYSTEM TO PROVIDE CONSTANT CHANGE AND IMPROVEMENT. ALL STATES AND TERRITORIES HAVE DEVELOPED PLANS FOR INCORPORATING ALL VOCATIONAL EDUCATION ACTS. THE ANNUAL REPORTING SYSTEM HAS BEEN REVISED, EVALUATION AT FEDERAL, STATE, AND LOCAL LEVELS HAS BEEN PLANNED, AND THE RESEARCH PROGRAM IS OPERATING AT BOTH FEDERAL AND STATE LEVELS. THE FEDERAL GOVERNMENT CURRENTLY PROVIDES FUNDS FOR VOCATIONAL EDUCATION IN APPROXIMATELY TWO-THIRDS OF THE COUNTRY'S PUBLIC SECONDARY SCHOOLS WHICH ENROLL 5.4 MILLION STUDENTS INCLUDING ADULTS. LOCAL, STATE, AND FEDERAL EXPENDITURES FOR VOCATIONAL EDUCATION IN FISCAL 1965 WAS NEARLY 563 MILLION DOLLARS. PROGRESS HAS BEEN MADE IN ACHIEVING THE PURPOSES FOR WHICH FUNDS MAY BE EXPENDED--(1) VOCATIONAL EDUCATION FOR PERSONS ATTENDING HIGH SCHOOL, FOR THOSE WHO HAVE COMPLETED OR LEFT HIGH SCHOOL, FOR TRAINING OR RETRAINING FOR THOSE ALREADY IN THE LABOR MARKET, AND FOR THOSE WHO HAVE HANDICAPS PREVENTING THEIR SUCCESS IN REGULAR VOCATIONAL PROGRAMS, (2) CONSTRUCTION OF AREA VOCATIONAL SCHOOLS, AND (3) PROVISION OF ANCILLARY SERVICES. OTHER ACHIEVEMENTS HAVE BEEN IN DEVELOPING CURRICULUMS, TRAINING GUIDANCE PERSONNEL, AND RELATING PROGRAMS TO MANPOWER NEEDS. THERE IS STILL A NEED FOR STATE LEADERSHIP PERSONNEL. AS A RESULT OF REVISED SMITH-HUGHES AND GEORGE-BARDEN ACTS, DEVELOPMENT IS CONTINUING IN THE VOCATIONAL AREAS. RECOMMENDATIONS FOR IMPROVEMENT WILL BE MADE FOLLOWING A THOROUGH REVIEW OF THE PROGRAM. (WB)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Statement of
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Assistant Commissioner for
Vocational and Technical Education
Bureau of Adult and Vocational Education
Office of Education
U.S. Department of Health, Education, and Welfare
before the
General Subcommittee on Education
of the
Subcommittee on Education and Labor
House of Representatives
Thursday, June 9, 1966
9:30 AM EDT

Additional witnesses:

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Assistant to the Director
Division of Vocational and
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Division of Vocational and
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VT 01820

Mr. Chairman and Members of the Subcommittee:

Through the thoughtful diligent work of the members of the General Subcommittee on Education and its Chairman, the Vocational Education Act of 1963 came into being and provided a new philosophy in vocational education which is resulting in a major expansion and redirection of the program across the nation.

Many efforts -- at Federal, State and local levels -- are concentrating toward making vocational and technical education programs readily accessible to persons of all ages in all communities of the States.

At the Federal level, the Office of Education has been reorganized into four new bureaus, namely: Elementary and Secondary Education; Higher Education; Research; and Adult and Vocational Education. The Division of Vocational and Technical Education, one of the three divisions in the new Bureau of Adult and Vocational Education, operates with four Branches, namely: Manpower Development and Training; Program Services; State Vocational Services; and Program Planning and Development.

The new organization lends itself well to implementation of the six purposes and in carrying out the provisions of P.L. 88-210. The new organization includes field staff in the nine Regional Offices of the Department of HEW, making services more readily available to the States in carrying out their heavier responsibilities under the new Act.

(See table next page, Report on Staffing)

DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
REPORT ON STAFFING
JUNE 7, 1966

	Total Authorization	Total On Duty	Professional Positions Authorized	Professional Positions Filled
Office of Assistant Commissioner	27	25	13	11
Program Services Branch	22	18	13	9
State Vocational Services Branch	34	32	21	19
Program Planning and Development Branch	18	17	12	11
Manpower Development and Training Branch	26	24	16	14
Headquarters Total	127	116	75	64
Region I	8	6	6	4
II	11	8	8	5
III	7	6	6	4
IV	10	8	7	5
V	13	10	8	5
VI	9	8	6	5
VII	8	7	5	4
VIII	6	6	4	4
IX	12	9	7	4
Field Total	84	68	57	40
TOTAL DVTE	211			

Staff Authorization by Appropriation:

	DVTE	MDT	Total
Headquarters	56	71	127
Field	28	56	84
	84	127	211

The representative Advisory Committee on Vocational Education, appointed by the Commissioner of Education in accordance with Section 9, has provided valuable advice on the general regulations and policy matters in the five meetings held thus far since its establishment in September 1964.

Since the passage of P.L. 88-210, the Division has conducted several series of regional conferences, as well as national conferences to assist the States in expanding and improving their programs. A variety of other services have been provided by the Division to the States, including continuous policy communications, and the preparation of publications related to program development needs.

As a result of greatly increased Federal-State actions, such as new legislation, increased State and local vocational education budgets, and new construction, the administration of the program has evolved into a systematized approach and procedure. Briefly seven sequential but interrelated steps are: (1) New Federal and State legislation; (2) New regulations, policies and procedures; (3) New State plans; (4) Projected Program of Activities (a new device); (5) Annual and special statistical, financial, and descriptive reports, the first feedback into the system; (6) Evaluation, the next element of feedback; and (7) Research--Federal and State--a significant feedback into the system to provide constant change and improvement in the program.

Since the signing of P.L. 88-210 on December 18, 1963, and the publication of the new regulations in the Federal Register on August 28, 1964, all States and Territories (except American Samoa for which eligibility was established in 1962), have developed and had approved by the U.S. Commissioner of Education new State Plans for Vocational Education incorporating all vocational education acts. The annual projected program of activities, a new administrative requirement on the States, describes how a State will gear its program to labor market needs, how it proposes to use all Federal and State matching funds in a fiscal year, and justifies the expenditure of funds in the light of the purposes of the new Act.

All the State and Territories have entered into written agreements with their respective (Section 5-(a)-4) State Employment Service agencies to bring about the exchange of information that will be mutually beneficial in determining the occupational needs in communities and the States and in meeting the training needs of students and trainees.

Projected program activities for 1967 are now being received from the States and are being reviewed by the Division staff. A State's allotment of Federal funds is awarded only after the thorough review and approval of its projections.

In this new document, all of the States have indicated how their State Boards or designated representative advisory council have met the requirements of Section 5-(a)-(1). Follow-up is made of the required

representation and of the activities of the Boards and/or the advisory councils in the annual reports.

The annual reporting system used by the States to the Office of Education was completely revamped in order to provide for more adequate information on program activities, including such data as number of graduates and their placement after graduation. The new reports will indicate the progress made toward reaching goals or objectives set forth in the projected program of activities.

Steps have been taken to set the stage for evaluation at Federal, State, and local levels. The Division staff has developed suggested criteria and procedures for evaluation activities. The States are developing goals, criteria, and procedures to conduct evaluations at State and local levels. The Secretary of Health, Education and Welfare is in the final stage of appointing the ad hoc twelve-person Advisory Council as required in Section 12, to make the first periodic review of vocational education programs and laws.

The Research Program is in operation at both Federal and State levels as provided for in Section 4(a)--Ancillary Services, and Section 4(c)--research grants. Through close cooperative efforts between the Division of Vocational and Technical Education and the Division of Adult and Vocational Research, great progress has been made by establishing 25 State Research Coordinating Units, (20 more are in process)in curriculum development, and in initiating and funding 47 institutes, seminars and conferences to upgrade and update teachers, supervisors, and other leadership in vocational education.

The dissemination and application of research results at the local operating level is expected to be the most important, valuable source of feedback into the system and hence produce constant change for improvement of programs of all kinds.

PROGRAM ACCOMPLISHMENTS

Despite the fact that 31 States did not actually receive Federal funds until the last 3 months of the fiscal year 1965, there was a sharp increase in enrollments of 847,369 going from 4,566,390 in 1964 to 5,413,759 in fiscal year 1965.

The total Federal-State-local expenditures for vocational education increased substantially from $332,785,114 in 1964 to $562,678,430 in 1965. In 1965 $154,802,070 of Federal funds were awarded to States. This was an increase of $99,775,196 over fiscal year 1964.

The full impact of the additional training services which will be available because of 208 construction projects (see II, (5)) is expected in fiscal years 1966 and 1967. State projections reveal that at least an equal number of construction projects will be approved in the current (1966) fiscal year.

The program accomplishments described herein are presented in the light of the six purposes for which funds may be expended and by occupational categories.

Among significant changes leading to improvement of vocational education programs was the expenditure of approximately $58 million to replace worn and outdated equipment as well as to add new equipment similar to that which is used in business and industry.

PURPOSE (1) VOCATIONAL EDUCATION FOR PERSONS ATTENDING HIGH SCHOOL

As a result of the Act of 1963, greater numbers of high school students in vocational education are reached today and, according to projections made by the States, many more will be reached during the next few years.

ENROLLMENT	1964	1965
Total enrollment in grades 9-12 in public high schools.	11,142,000[1/]	11,469,000[1/]
Enrollment in secondary vocational education.	2,140,756	2,819,152

According to these projections 19.2% of all high school students were enrolled in some kind of Federally aided vocational education program in 1964 and 24.9% were enrolled in such programs in 1965. This percentage is expected to increase in 1966 as the Act of 1963 becomes more fully operative and as enrollments in new occupational areas provided for in the Act of 1963 are reported. Projections made by the Division of Vocational and Technical Education indicate that by 1970 at least 35% of all the students enrolled in high school will be enrolled in a Federally aided vocational education program gaining necessary skill and knowledge that will enable them to obtain gainful employment upon graduation from high school, or continue training in post secondary training programs for such employment.

1/ From Digest of Educational Statistics, 1965 Edition, U.S. Office of Education

One of the great improvements in the secondary school programs was the new area school construction at the secondary school level - which included 27 specialized vocational-technical high schools and 62 departments of comprehensive high schools. One of the most striking changes in the secondary school program came as a result of the many States developing area schools that serve a number of constituent high schools. In this type of area school, students retain their identity in their home high school and acquire their occupational training in a shop or laboratory facility especially designed for this purpose. The States of Pennsylvania, Ohio, Delaware, South Carolina, Oklahoma and Kansas are among the States developing this new type of secondary education facility.

Even greater expansion is anticipated as the States complete construction of area school facilities. ~~Thx~~ These facilities will be used for vocational education in grades 10, 11 and 12.

Purpose (2)

Vocational education for persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market.

Post-high school programs are offered in a variety of institutions including area vocational-technical schools, technical institutes, community and junior colleges and universities and colleges. In fiscal year 1965, about 1,000 of such institutions offered some programs with 17,083 teachers participating. This is an increase of 2,456 teachers over the 1964 fiscal year. The enrollment was 207,201 in grades 13 and 14. The States reported an expenditure of 14.7 percent of the allotted funds used for this purpose.

The enrollment in technical education programs at the post-high school level in fiscal year 1965 was 71,845, which is approximately the same as the previous year. However, a large proportion of the business and office education enrollment of 43,633 at this level consisted of electronic data processing, formerly reported as technical education. In addition to data processing, programs at this level are offered in electronics, electrical, mechanical design, metallurgical, instrumentation, nuclear and plastic technology.

Many States are designating community and junior colleges as area vocational education facilities. In fiscal year 1965, 76 post-high school types of vocational-technical schools were constructed, in addition to 43 departments of higher education which will house programs of technical education. As these facilities are completed, a major expansion in offerings will be possible. In several States legislation providing for post secondary institutions make provisions for offering vocational and technical programs along with the academic programs.

PURPOSE (3)

Vocational education for persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment.

The Vocational Education Act of 1963 greatly expands the potential for vocational education for all adults, and, in fact, emphasizes the necessity for such training. Traditionally States have provided publicly financed education for their youth and required attendance in public school until the age of 16 years. However, it is a relatively new concept that the public should assume financial responsibility for the education of adults and many States and localities are experiencing difficulty in obtaining sufficient funds for matching Federal funds for this purpose. Even so, the enrollment increased by 347,673 in fiscal year 1965 to a total of 2,372,822. The total number of adult program teachers increased from 47,770 to 50,620. Of this latter number 4,592 were full-time teachers. The majority of the programs were of a supplementary nature covering several hundred occupations.

Since the State board for vocational education is the agency also responsible for manpower development and training, a close tie-in exists. Many individual referrals under MDTA are made to existing vocational programs and professional personnel, equipment and facilities are used to mutual advantage.

A similar relationship exists with programs of basic adult education under Title II B of the Economic Opportunity Act.

Purpose (4)

Vocational education for persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in regular vocational education programs.

In fiscal year 1965, 20 States expended $805,321 under the 1963 Act for programs for persons with special needs. About 1,000 teachers were identified as devoting some time to the development of such programs with an enrollment of 25,638. Vocational education personnel are establishing working relationships with other agencies concerned, such as welfare agencies, adult literacy, correctional institutions, and vocational rehabilitation. Several States are developing multi-occupational skill centers to orient students to a variety of occupational opportunities. New course offerings are being provided in semi-skilled and service occupations. Several States, including Ohio, Oklahoma, and Florida, are putting on their State staffs a program specialist for persons with special needs to assist the localities in developing programs. Programs in correctional institutions have been initiated under the Act in a number of States including Hawaii, Arizona, Montana, and Arkansas. Occupational orientation projects designed to prevent dropouts and to encourage dropouts to return to school are being tried in several States including Texas, Ohio, Massachusetts, North Carolina, and California. Generally, this program includes academic instruction to meet the intellectual limitations of the students, and introduction to the world of work, an opportunity to experiment in a variety of course offerings, and intensive counseling. Some have components

of work experience and training which helps to hold the interest of many of the academically limited students.

Program development has been limited due to the fact that this is a new concept to many people, and time is needed to make surveys, establish contacts with other agencies and to select or train teachers for such programs. The commingling of persons with special needs in existing programs of vocational education poses a problem in reporting and most cases are not presently so identified. Much more needs to be done in developing programs for persons with special needs but this will result as States are becoming aware of the needs of this group.

Purpose (5)

CONSTRUCTION OF AREA VOCATIONAL SCHOOLS

The availability of funds for construction for area vocational education schools under the provisions of the Vocational Education Act of 1963 has been a great stimulus to the States and Territories in breaking through one of the most serious obstacles to the growth of vocational education -- the lack of adequate facilities and equipment.

One of the most dramatic developments of the new vocational education program during fiscal 1965 has been the construction and remodeling of 208 area vocational education schools at a total cost of $85,674,000. Of these totals, 144 were completely new facilities in the following categories: 23 specialized high schools, 46 technical vocational schools, 38 Departments of High Schools and 36 Departments of Higher Education. (See chart next page)

Prior to the passage of the Act and the availability of funds for construction, there were 405 area vocational schools throughout the country. As of fiscal 1965, there are now a total of 651 area vocational education schools in 50 States and Territories.

At the present rate of construction, by 1970 there would be provided a nationwide system of 1,333 area vocational education schools which would lead substantially to vocational education opportunities readily accessible to persons of all ages in all communities in the States.

	No of projects	Expenditures	
		Federal	Matching
TOTALS	208	36,848,554	64,996,520
1. Alabama	6	2,065,000	2,065,000
2. Alaska	0	0	0
3. Arizona	0	0	0
4. Arkansas	3	845,000	845,000
5. California	27	1,530,492	4,433,487
6. Colorado	3	304,929	317,071
7. Connecticut	0	0	0
8. Delaware	0	0	0
9. District of Columbia	1	50,703	50,703
10. Florida	1	32,808	34,571
11. Georgia	5	1,326,000	1,326,000
12. Hawaii	1	100,500	100,500
13. Idaho	1	20,000	135,448
14. Illinois	0	0	0
15. Indiana	2	2,288,558	2,288,558
16. Iowa	0	0	0
17. Kansas	2	702,045	702,045
18. Kentucky	8	1,423,537	1,423,537
19. Louisiana	0	0	0
20. Maine	0	0	0
21. Maryland	5	1,247,000	3,869,000
22. Massachusetts	8	792,480	1,607,503
23. Michigan	8	1,617,297	1,617,297
24. Minnesota	10	1,297,604	6,000,000
25. Mississippi	6	529,369	1,102,153
26. Missouri	3	364,928	364,929
27. Montana	0	0	0
28. Nebraska	1	413,389	413,389
29. Nevada	1	118,781	130,592
30. New Hampshire	2	360,395	1,409,338
31. New Jersey	17	1,223,666	2,321,151
32. New Mexico	2	288,173	288,173
33. New York	0	0	0
34. North Carolina	5	1,212,824	1,714,724
35. North Dakota	1	311,326	315,000
36. Ohio	16	4,530,389	4,530,389
37. Oklahoma	2	885,978	885,978
38. Oregon	3	530,997	533,901
39. Pennsylvania	6	3,703,404	9,816,172
40. Rhode Island	1	577,800	800,000
41. South Carolina	5	814,416	1,033,004
42. South Dakota	1	300,000	300,000
43. Tennessee	6	1,275,439	1,275,439
44. Texas	15	5,819,370	5,928,710
45. Utah	2	265,000	1,277,773
46. Vermont	1	113,400	128,361
47. Virginia	5	357,259	363,968
48. Washington	0	0	0
49. West Virginia	5	848,400	848,400
50. Wisconsin	7	876,640	1,314,964
51. Wyoming	0	0	0
52. Guam	0	0	0
53. Puerto Rico	4	1,364,647	1,384,292
54. Virgin Islands	0	0	0

27 Spec H.S. (23 new)

76 Tech/Voc School (46 new)

62 Dept. of H.S. (39 new)

43 Dept of Higher Ed. (36 new)

144 new construction

64 remodel

PHS-24-3 STATISTICAL WORK SHEET
REV 7-61

Purpose (6)

ANCILLARY SERVICES - to assure quality in all vocational programs

With the requirement that at least 3 percent of the funds allocated to the States under the 1963 Act must be expended for ancillary services, increased emphasis is placed on this important aspect of the State's program. Actual experience in 1965 reveals that an average of 5 percent of the State's allocation was expended in this way. Projected activities reports for 1966 indicate that 7.1 percent will be expended for this purpose.

TEACHER EDUCATION

A total of 109,136 teachers were employed in vocational-technical education programs in the fiscal year 1965, an increase of 24,034 over 1964.

In 1965, 652 institutions received Federal financial assistance for the support of vocational teacher education programs.

Teachers will continue to be provided through several routes including:

(1) Graduation from baccalaureate degree programs in education;

(2) Graduation from programs other than education; e.g., professional nursing;

(3) Technically qualified persons from business and industry;

(4) Technically competent persons leaving the military services.

(There is no page 17)

CURRICULUM CHANGES IN VOCATIONAL TECHNICAL EDUCATION

The Vocational Education Act of 1963 is making possible added staffing of curriculum laboratories and the employment of new curriculum specialist at the State level. These added workers are developing materials for teachers, and in some instances, are setting up laboratories to produce items needed within the State. There is a drawing together of curriculum development activity in various services into one central statewide laboratory. Such a plan can save dollars, time and effort in the States.

Advisory committees, organized labor and associations are being brought into curriculum materials development activities by the States. As added staff members and new laboratories get underway, teachers will have new material with which to work. States are developing teaching aids and making them available to programs.

Curriculum changes are occuring at a rapid pace in vocational-technical education as a result of the Vocational Education Act of 1963. Major changes are dictated by:

(1) the inclusion of office and business education under the provisions of the Act;

(2) the emphasis on training persons who have academic, socio-economic or other handicaps;

(3) the emphasis on training for agricultural related occupations;

(4) the training of persons in home economics for wage earning occupations.

States are moving into training in a variety of novel and challenging occupational areas. Interest manifests itself in requests received by the Division for help in supplying curriculum guides in many new fields. Instructional materials are being developed for courses in laser technology, numerical control of machine tools, radiography, dental laboratoty technician

and others. Interest in training activity and in curriculum materials is heightening for such areas as microelectronics, school lunchroom supervision, plastics technology and similar widely diverse, sometimes unusual, occupational areas.

An example of this growth and development in staff is exemplified by the happenings in one State that presently has four curriculum laboratories. Projections for this State call for the following:

- The addition of a curriculum laboratory for the development of materials in the agriculture field.
- The addition of specialists in curriculum development in home economics related to wage earning occupations.
- The adding of one each, staff members in the office occupations and the handling of persons with special needs.

Several other States have indicated the employment of a person to supervise curriculum development activity.

Most States indicate new or an acceleration of activity in curriculum development and revision.

GUIDANCE

The Vocational Education Act of 1963 has focused new attention on the need for adequate services to students in the vocational education aspects of guidance. At the national level several conferences have been directed toward this problem involving leaders in the general guidance field. A national conference of real significance will be one to be sponsored jointly by the American Personnel and Guidance Association and the American Vocational Association in August for State Supervisors of Guidance.

In 1965 there were 35 persons on State staffs with a major responsibility for the vocational aspects of guidance and 1,615 persons on local staffs. The projected activities reports for 1966 indicate that the States plan to greatly expand the vocational guidance services as a result of the provisions of the Act.

A number of States provided workshops for guidance counselors during the fiscal year 1965 and expect to continue or expand such workshops during 1966. For example, Texas reports:

> "During fiscal year 1965 area workshops for over 1,200 public schools counselors were conducted for the purpose of orienting them to the purposes, needs and methods of vocational guidance and counseling. Another series of these workshops will be conducted during fiscal year 1966 with staff members of the Guidance Division and the Vocational Education Division jointly responsible for organizing and providing leadership in these workshops."

The State of Alabama indicates:

> "Employment of a head supervisor and an assistant for vocational guidance, and allotting 53 counselors to school systems with large enrollments and large vocational programs is indicated."

The State of Florida reports:

> "A vocational guidance specialist will be added to the State guidance staff to coordinate efforts in disseminating occupational information. The summer conference for cooperative education teacher-coordinators will strongly emphasize guidance."

The projected activities report of Puerto Rico contains another example of greatly expanded effort in the guidance area stimulated by the Vocational Education Act of 1963. Last year, 43 counseling positions were created. This year, 13 additional positions will be created which will bring the student ratio per counselor to 844. Their plan is to reduce gradually the student ratio to 750 and eventually to 500. Some of the counselors will be assigned to work with out-of-school youth in urban public housing developments. They will cooperate with other service programs in developing plans to train these youths for work.

STATE LEADERSHIP

As the vocational education program expands and greater amounts of funds are expended, it is essential that more staff members be employed at all levels to maintain the quality of the program and to insure that the intent of Congress regarding the provisions of the Acts is carried out.

With the requirement that at least 3% of the funds allocated to the States under the 1963 Act must be expended for ancillary service (which includes supervision and administration), increased emphasis is placed on this important aspect of the State's program. Actual experience in 1965 reveals that an average of 5% of the State's allocation was expended in this way. Projected activities reports for 1966 indicate that an even greater percentage will be expended for this purpose.

Annual reports for the year 1965 from the States show that 2106 professional persons were employed in supervisory and administrative capacities at the State level. These professionals perform very important functions in the implementation of vocational education in the States. They include persons such as the State director of vocational education, State supervisors of various occupational areas, teacher trainers, guidance and research directors, and personnel with responsibities for evaluation of the vocational education program.

The dearth of professional personnel who are adequately qualified to perform the various functions and assume the necessary responsibilities in a viable, up-to-date vocational education program add to the difficulties as the program expands. During this current year, 1966, the several States plan to add a total of 285 professional personnel to the State staffs.

Retirement of staff members further complicates the process as programs expand. During the past four years 30 new State directors of vocational education of the total 54 came into service.

If quality programs of vocational education are to be maintained, vocational education staffs need to be adequate in number and personnel must be qualified to perform the functions of the positions they hold. Much progress still needs to be made with respect to both quantity and quality of personnel to insure proper supervision and administration of the program.

RELATING PROGRAMS TO MANPOWER NEEDS

Progress is being made in adjusting State and local vocational education programs and service to current and projected manpower needs and job opportunities. First and foremost is the closer liaison which is being established with labor departments on Federal and State levels. With regard to better utilization of manpower data for program planning, guidelines were established and written agreements were made between State boards for vocational education and State employment agencies. These agreements provide for closer cooperation between the agencies and will enable vocational education planners to have access to or arrange for obtaining data which will provide information about manpower trends and occupational requirements.

In order to further acquaint vocational educators with manpower information, participants at vocational divisional regional conferences were supplied with information concerning materials dealing with occupational opportunities and requirements. Mentioned were area skill surveys, occupational guides, the Occupational Outlook Handbook, and the Dictionary of Occupational Titles.

A special one-day intensive training session for staff members of the Division of Vocational and Technical Education on the contents and use of the new Dictionary of Occupational Titles was held. The publications now being issued by the Division are being linked to the world of work

in terms of the Dictionary of Occupational Titles. For example, the suggested curriculum guides for automotive service specialist and electronics business data processing peripheral occupations both contain descriptions and code numbers based on the DOT. Another example of this on the State level is the publication, "Training Opportunities for

Highschool Students in North Carolina" (August 1965) by the State Department of Public Instruction, Division of Vocational Education, Trade and Industrial Education. All of these publications relate instructional programs to the DOT by title and code.

In order to better understand the situation with regard to vocational agriculture, studies have been made to identify those occupations which are performed off the farm but require agricultural competency. The Research Center for Vocational and Technical Education at the Ohio State University has been involved in this work and has issued materials on this subject. At the present time a guide to off-farm agricultural occupations is being prepared by the Center.

A close working relationship has been established with the National Center for Educational Statistics which is preparing a handbook which will contain a taxonomy of instructional programs offered by State and local school systems. The materials developed for these programs are not only bringing about a better understanding between the academic and vocational areas of education in the United States but are also being useful in the development of a better system for reporting on vocational education programs. In this connection a format has been developed which relates vocational education programs to the world of work. This will help to measure the vocational education offerings against manpower trends and requirements. The format will indicate the occupations which can be performed as a result of taking certain vocational education programs. Thus, a continuim will be indicated between vocational education and the actual occupations for which such education is necessary.

THE OCCUPATIONAL SERVICES

PROGRAM DEVELOPMENT IN THE OCCUPATIONAL CATEGORIES AS A RESULT OF REVISED SMITH-HUGHES AND GEORGE-BARDEN ACTS

The vocational education program moved in the direction intended by the Congress when the amendments to the Smith-Hughes and George-Barden Acts were included in the Vocational Education Act of 1963. Briefly these amendments did the following: agricultural education was broadened to include related occupations involving agricultural knowledge and skills; home economics was broadened to include related occupations involving home economics knowledge and skills; it further provided that 10% of the State's Smith-Hughes and George-Barden allotments for home economics be spent for gainful employment training; preparatory programs were approved for support in distributive education; trade and industrial education programs in semi-skilled occupations were not required to devote 50% of the time to practical work on a useful and productive basis, nor was it required that at least 1/3 of the State's allocation be expended for part-time classes; Titles II and III of the George-Barden Act supporting health occupations and technical education, respectively, were made permanent.

Because of the short period of time during which this amended legislation has been in actual operation, it is difficult to assess its full impact. However, the following summaries of occupational categories give some indication of accomplishments to date.

AGRICULTURAL EDUCATION

In 1965 there was a grand total of 887,529 persons enrolled in agriculture which was an increase of 17,124 over the previous year.

The breakdown of enrollment for 1964 and 1965 is as follows:

	1964	1965
Secondary	501,819	516,893
Post-Secondary	--	2,054
Adult	358,786	367,287
Special Needs	--	1,295
Grand Total	860,605	887,529

Included in the 1965 total were 55,681 persons enrolled in classes preparing them in occupations involving agriculture knowledge and skills. Occupational areas represented include the following:

Occupation	Enrollment
Horticulture	3,827
Agriculture Services	18,434
Forestry	2,304
Mechanics	7,836
Distributive	144
Processing	23,136
Total	55,681

New programs to train individuals for employment in off-farm

agricultural occupations have been instituted in at least 2000 secondary schools. (based on a national sample) Offerings include such fields as ornamental horticulture, forestry, agricultural mechanics, agricultural supplies, agricultural processing, conservation and recreation. Ohio established ornamental horticulture courses in 34 schools and cooperative programs in agri-business in 19 other schools. New York State has introduced new courses in agricultural mechanics in more than 200 schools.

Classes in agriculture with instruction for persons with special needs have been established in at least 20 States with 3 reported in New Jersey and 14 reported in Ohio.

Agricultural instruction has been introduced into 75 new post-high school vocational and technical institutes and introduced or improved in 125 junior colleges and technical institutes in 35 States. A variety of offerings included occupations such as veterinary technology, landscape horticulture, grain, seed, feed and farm supplies technology, forestry and food processing. Programs of this type which were established include, six in Illinois, seven in Minnesota, eleven in North Carolina, two in Ohio, three in Mississippi, and two in Michigan.

Examples of adult education programs in agriculture include those for park employees and roadside beautification crews which are underway in New Jersey and California. Farm business management programs have been established in at least 30 States. Twelve of 16 such courses conducted in Minnesota for low-income farmers under the Manpower Development and Training program have been continued under the provisions of the 1963 Act.

HOME ECONOMICS

In 1965 there was a grand total of 2,098,520 enrolled in home economics which was an increase of 76,382 over the previous year.

The breakdown of enrollment for 1964 and 1964 is as follows:

	1964	1965
Secondary	1,308,453	1,442,807
Post-Secondary	1,652	2,060
Adult	712,033	650,211
Special Needs	--	3,442
Grand total	2,022,138	2,098,520

Included in the 1965 total were 14,169 persons enrolled in classes preparing them in occupations involving home economics knowledge and skills. Occupational areas represented include the following:

Occupation	Enrollment
Food management, production and service	6,674
Child care and guidance	795
Institutional and home management	1,453
Clothing management, production and service	1,383
Home furnishings and equipment services	112
Miscellaneous gainful employment	3,247
Total	14,169

To implement programs utilizing knowledge and skills of home economics, States have developed guidelines for (1) identifying employment needs in these occupations; (2) developing policies and procedures for planning and initiating programs for these occupations; (3) developing curriculum guidelines and instructional materials; (4) participating in joint efforts of various vocational services; (5) planning for job placement and follow-up.

Occupations utilizing knowledge and skills of home economics have been identified in five broad occupational areas as follows: food management, production and services; care and guidance of children; institutional and home management; clothing management, production, and service; and home furnishings, equipment and services.

More than 25 States report preparation for gainful employment in home economics at the high school level. In Pittsburgh, Pa., a number of occupational options are available such as food science, child development, institutional management, and clothing merchandising. Other curriculum changes with special appeal for youth with special needs have stimulated interest and probably prevented students from becoming school dropouts.

At least ten States have initiated programs at the post-high school level such as the one at the Wislon Branch of the Chicago (Ill.) City Junior College. The latter is a two-year program to train workers for jobs in a variety of types of child care and guidance programs -- such as, nursery schools, day-care centers, HEAD START programs. Begun with 22 enrollees in the fall of 1964, the spring term of 1965 saw 120 in the day enrollment and 100 in the evening. Arizona, California, Ohio, and Wisconsin were other States that developed post-high school programs.

Adult course offerings included supervised food service worker, hotel and motel housekeeping aide, companion to the elderly, institutional housekeeper, homemaker-home health aide, homemaker assistant, seamstress, day-care center worker, floral assistant, county welfare worker, and school lunch worker.

Programs have been established to reach youth and adults with special needs. Examples are food service for boys and dressmaking for women in Maryland; homemaker assistant and homemaker aide and nurse aide training for adults in Arizona; business and industry and career homemaking for boys and girls in Colorado; and homemaking for welfare groups in Utah.

More than 10,000 were enrolled in classes preparing for gainful employment in home economics. This included over 3,400 youth enrolled in classes with special needs and over 2,000 enrolled in post-secondary programs.

Distributive Education

The total enrollment of 333,342 in 1965 shows a slight decrease of 784 from the total enrollment of 334,126 in 1964.

Not only did the Vocational Education Act of 1963 broaden the scope of distributive education by expanding its role to pre-employment instruction, it also brought into focus the wide range of employment opportunity existing in the distribution and marketing sector of the economy for which training programs can be established in high school and post secondary institutions. Enrollments in this phase of the program increased from 57,820 in 1964, to 82,570 in 1965.

New curriculums were established which brought greater industry awareness and support. Some of these new offerings combined the resources of other vocational services.

Examples of these specialized curriculums are home furnishings marketing, petroleum distribution, food marketing, hardware marketing, feed and fertilizer marketing, and floriculture.

The slight decrease in total enrollment is due to the decrease in adult enrollments, resulting from the urgency in priority given to programs providing preparatory instruction for gainful employment.

TRADE AND INDUSTRIAL EDUCATION

Enrollments in trade and industrial education have continued to grow with 1,087,809 enrolled during the fiscal year 1966, an increase of 18,535. The program has continued to serve the greatest numbers at the adult level enrolling 756,802 in 1965. In full time educational programs 252,709 youths were served in high school programs and 45,258 in post secondary programs.

One of the new program dimensions of the Vocational Education Act of 1963 is the serving of persons with special needs. During the first reporting year 18,374 persons in this category were served. For the most part this figure represents those served in programs set up for that purpose.

Prior to the Vocational Education Act of 1963 trade and industrial preparatory programs were operated almost exclusively to train in skilled occupations. However, many new programs have been established for pre-employment training for semi-skilled occupations as a result of the amendments to the Smith-Hughes and George Barden Acts permitting pre-employment classes to operate less than 9 months per year and less than 30 hours per week without the requirement that half of the time be given to practical work. Examples of such occupational areas for which training is provided are: custodians, machine tool operators, and gas station attendants.

Trade and industrial programs are serving a much broader range of occupations. While additional programs are being developed for semi-skilled occupations, many of the conventional occupations are requiring a higher degree of skill and technical know how. It is estimated, for example, that since the Vocational Education Act of 1963 at least 100 machine trades programs include instruction in the operation of numerical controlled machine tools. Newer areas of training have been developed in fields of work such as: radiography, fluid power, instrument maintenance, lens grinding and optical mechanics.

There has been a genuine effort in the States to meet the needs of more students. In many of the smaller school districts there is a growth in industrial cooperative training programs in which students are placed in industry for skill development. In other places, area schools are being developed in order to serve more youth. An example of such a school is the Penta-County school in Ohio, in which 19 school districts in five counties are cooperating. The school serves high school students, graduates, and dropouts as well as adults. Training is provided in families of jobs leading to employment in more than 300 occupations.

TECHNICAL EDUCATION

Enrollments in technical education have continued to increase to 225,737 in 1965, an increase of approximately 5000 from the previous year. The greater enrollment, 130,015 this year, has continued to be at the adult level. In full time preparatory programs, usually two years in length, 71,845 were enrolled in post-secondary programs and 23,877 in secondary programs. While technical education programs are found in a number of kinds of institutions, the junior or community college tends to be a prominent type of institution with 190 such schools providing programs during the 1965 fiscal year. Programs were provided also in 45 four-year colleges.

The program continues to train mainly for the highly skilled engineering related technologies, as provided in Title III of the George-Barden Act previously Title VIII of the National Defense Education Act, which have had rapid growth as a result of our technological advances. These technologies include: Electronics, mechanical, electrical, aeronautical, chemical and metallurgical, civil and construction, instrumentation, production, data processing, and plastics.

The Vocational Education Act of 1963, however, has added new breadth to the program with a result that a number of programs have been started and many more are being planned in research activities, medical, and biological technologies. For example:

In Louisiana, at the Jefferson Parrish Trade School, a program was provided for the medical profession to train laboratory technicians involving elements of basic electronics pertinent to the operation of various electronics instruments utilized in hospitals.

The Norwich Regional Vocational-Technical School in Connecticut, has established a new program for health physical technicians. Training persons in such fields as the methods of health control, radiological monitoring and the use of radiological measuring equipment.

In New Jersey, nuclear technicians are being supplied to hospitals, oil refineries and ship yards through the nuclear technology program offered at the Camden County Vocational-Technical Institute.

Graduates of technical programs have been extremely successful in the labor market, being in high demand. For example, of the 16,347 graduates reported in 1964, 11,292 were available for placement and 70 percent of this number were employed in a technical field and another 11 percent in a field relating to their training.

The close working relationships between the industrial training commissions and the State departments of education in such States as North Carolina, South Carolina, Georgia, and Mississippi, and the availability of well-equipped technical schools to provide training for youth and adults has resulted in considerable industrial growth in these States.

Office Occupations

Education for office occupations is a direct result of the Vocational Education Act of 1963. Office occupations education now serves 730,904 persons in reimbursed or reimbursable programs in the Nation.

The breakdown of enrollments is as follows:

	1965
Secondary.	498,034
Post-secondary	43,633
Adult.	187,468
Special needs.	1,769
Grand Total. . . .	730,904

The introduction of office occupations education into vocational education has, therefore, expanded the impact of the vocational program by more than 700,000 persons who have never before had the benefit of the supervision and support provided by a Federal/State cooperative effort.

Early reports from the States indicate an excellent placement record of the new programs.

At the post-secondary school level both public and privare schools are offering office occupations training. Cooperation from the private business schools has been attained and education in them is possible on an individual referral basis. A number of States have been using both private business schools and other post-secondary schools for office occupations training.

Funds provided under the Vocational Education Act have supported construction of facilities and the purchase of equipment in many States beneficial to the office occupations program. Virginia has reported that three new departments for office occupations education were made possible through the use of construction funds at the high school level and five post-secondary schools were similarly aided. In addition, five teacher education colleges received reimbursement for instructional equipment. Ohio provided $400,000 for equipment approvals in 53 schools while Pennsylvania indicated that about 1.4 million were encumbered for equipment which was matched with some $2.8 million from the school districts concerned.

A direct impact of the Vocational Education Act is found in the expansion of the cooperative program in office occupations education. For example, Puerto Rico has 45 such programs, involving about 1,500 students. Ohio has 50 such programs while Texas has a similar number. It is expected that the cooperative education program will continue to expand as funds are made available for its support.

The economic impact of the cooperative program in office education is shown in Georgia where students in the programs earned $368,222 and in Ohio where they earned $857,231. In both cases these earnings were fed back into the State and local community economy.

As a direct result of the Vocational Education Act of 1963 each State now has, or has authorized, a person charged with supervision for office occupations education. With the stimulation of supervision in the States has come an increase in community surveys and occupational surveys by local and State educational personnel. The office occupations education program is closely tied to the vocational opportunities available for persons completing a program.

In many States encouragement was given to cut across occupational areas to serve certain occupations which require the skills found in more than one

occupational service. Programs of this kind are found in New York, Ohio, Minnesota, Wisconsin and others which have indicated joint ventures crossing service lines between agriculture, office, distribution and the health fields.

The field of office occupations represents the second largest area of job opportunities in this country. Consequently, it is anticipated that continued growth and expansion in the office education program will take place in the forseeable future.

In addition to the usual courses in typing and shorthand commonly associated with this field, included are such other educational offerings as: machine accounting, data processing, card punch operator, and a variety of similar occupations.

Health Occupations

The Vocational Education Act of 1963 and the amendment to the George-Barden Act making health occupations a permanent piece of legislation have combined to provide continuous support to the increased enrollment in the important field of health occupations. Total enrollments increased from 53,957 in 1963 to 59,006 in 1964 and 66,772 in 1965. Use of funds increased from $11,377,114 Federal, State and local in F.Y. 1963 to $14,213,759 in F.Y. 1965.

An important development in the program has been the approval by the Commissioner of Education of the use of VE Act funds for two-year associate degree programs in nursing. The strengthening of Staffs at all levels is also an important step toward the development of multiple health occupational training programs. Such programs endorsed by the National Health Advisory Committee are urgently needed to meet the critical shortage of health workers of all types. It is estimated that 120,000 health workers will be required within the next year to meet the service needs generated by the Medicare Program.

Significant to the successful growth of health occupations training is the rapid increase in the development of 2 year community college program for nursing, dental hygiene, dental technician, and X-ray technology. Post secondary programs comprise 63% of the training offered in health occupations.

THE VOCATIONAL WORK STUDY PROGRAM

Although the Vocational Work-Study Program had a late start in fiscal 1965, 8,794 needy full time vocational education students were able to benefit by this provision of the Vocational Education Act of 1963. By reason of a change in the regulations, a special continuing feature of program activity was a summer program which commenced in July and August, 1965, funded from the fiscal 1965 appropriation. At that time, 7,386 young persons were provided the opportunity to earn funds needed to enter upon and to continue full-time vocational school. Thus, they were provided with lunch money, bus fares, and clothing and became able to contribute to the family budget. Increased vocational school enrollments are made possible by this opportunity for needy students to engage in work activity.

In fiscal 1966, the first full year of operation for this program, approximately 85,100 vocational students in all States participated at an estimated cost of $24,885,804. It is estimated for the months of July and August, 1966, that approximately 26,750 students will be enrolled at full time work in the special summer program.

State and local vocational education authorities have expressed enthusiasm for this program and particularly for its method of operation. Responsibility for the majority of program decisions is placed at the State and local levels. The limitation upon funds for State administration has created a situation in which about 3% of the Federal funds appropriated under Section 13 are expended for administration while 97% of the appropriated funds accrue directly to needy students themselves.

This program has been successful in making it possible for youths who otherwise would have been unable to commence and continue full-time vocational education programs.

Some selected activities which have been reported follow:

1. In one school in Delaware, 25 potential drop-outs from low income families were selected for the special summer program in the calendar year 1965. Twenty-four of these returned to school in September; one having entered military service. School personnel who worked with these students reported that their attitudes toward education changed as they started to see the advantages of remaining in school for studies which would prepare them for work.

2. In one school in New Jersey, the students refinished a vocational shop. They repainted the furniture, cleaned and painted the instructional equipment and performed simple repairs to machine tools under supervision of the vocational education instructor. The work performed was directly related to the vocational instruction which the students received in their school program.

3. In an Area Vocational School located in Staples, Minnesota, 71 students from more than 25 counties participated in the work-study program. These post-secondary students were selected because of severe financial problems which would have prevented their enrollment in school except for funds which they received on the work study program. While these students are provided with instructional supplies, equipment and free tuition, they need the funds for subsistence while attending school away from home. Under supervision of the vocational instructors the students have reconstructed buildings, repaired and maintained heavy construction equipment used in the instructional program.

4. In a vocational school in the District of Columbia, advanced vocational agricultural students majoring in landscaping and horticulture are obtaining special work experience at the National Arboretum under the vocational work study program. After graduation it is planned that these students will continue

their training as employees of the Arboretum.

Experiences in the work study program fully justifies the action of the Congress in making it possible for young persons to continue their vocational education.

Residential Vocational Education Schools

The Commissioner is authorized under Section 14 of the Vocational Education Act of 1963 to establish Residential Vocational Education Schools for youths who are between the age of 15 and 21 at time of enrollment, and who need full-time study on a residential basis in order to derive maximum benefit from vocational education.

The Vocational Education Act of 1963, Section 15 authorized to be appropriated for the purpose of carrying out the provision of Section 13, work study, and Section 14, residential vocational education schools, $30,000,000 for the fiscal year ending June 30, 1965; $50,000,000 for the fiscal year ending June 30, 1966; and $35,000,000 for the fiscal year ending June 30, 1967, and the succeeding fiscal year.

The Office of Education distributed on December 3, 1964, regulations, conditions and procedures governing the program in order to have available proposals which will provide information needed by the administration and the Congress in considering appropriations and estimates for fiscal year 1966. Proposal was required to explain the following: purpose, program emphasis, description of geographical area, unemployment surveys, employment opportunities surveys, persons to be served, administration, advisory committees, personnel,facilities, plan of operation, student personal development, education and occupational training, budget, and consideration by State board.

Considerable interest was exhibited in this authorization and over 150 expressions of interest were received. The Office of Education eventually received 12 formal proposals which were developed in accordance with the "Conditions and Procedures" as listed:

1. Atlanta Residential Vocational School - Atlanta, Georgia
2. The Residential Vocational School - St. Louis, Missouri
3. McNeese State College, Department of Technology - Lake Charles, Louisiana
4. Appalachia Residential Vocational School - Ashland, Kentucky
5. Southern Oregon College - Ashland, Oregon
6. Oklahoma State Tech Residential Vocational School - Okmulgee, Oklahoma
7. Mid-West Area Residential Vocational School - Carbondale, Edwardsville, Ill.
8. Mt. San Jacinto College - San Jacinto, California
9. San Diego Area Residential Vocational School - San Diego, California
10. City of Philadelphia - Philadelphia, Pennsylvania
11. City of Chicago - Chicago, Illinois
12. City of Nashville - Nashville, Tennessee

In August of 1965, the National Advisory Committee again recommended the following order of priority in accordance with criteria established in Section 105.27 of the regulations:

1. Atlanta, Georgia
2. Okmulgee, Oklahoma
3. Philadelphia, Pennsylvania
4. St. Louis, Missouri
5. San Diego, California
6. Ashland, Kentucky
7. District of Columbia or its environs

An amount of $25 million was originally requested in the regular appropriation request of the Office of Education for fiscal year 1965 and $5 million for fiscal year 1966. While these funds were disallowed, it was urgently requested in the supplemental budget a request for $3.5 million to implement the initial program and architectural planning for seven demonstration residential vocational education schools.

Up to this time, the Congress has not appropriated funds for this purpose.

Evaluation

The Vocational Education Act of 1963, authorizing Federal grants to States to assist them in strengthening and improving the quality of vocational education requires periodic review of vocational education programs and laws. In 1966, the Secretary of Health, Education, and Welfare is required to appoint an Advisory Council on Vocational Education to review and make recommendations concerning the status of vocational education programs, the administration of these programs and the Acts under which funds are appropriated.

Provision was made in the Division of Vocational and Technical Education for a small evaluation staff to direct the Division's activities relating to evaluation.

The objectives of the Division's evaluation program are: to develop a comprehensive and responsive system for determining the effectiveness of vocational-technical education programs in terms of the purposes of the Acts; to organize the system to meet short and long-term goals of the U.S. Office of Education for program planning and decision-making; and to provide leadership and service to the States, assisting them to carry out their program evaluation responsibilities.

Following is an outlined summary of the approach which will be followed for a systematic national "pulse-taking." This approach is also designed to serve as a framework within which each State can construct its own stock-taking efforts in vocational education:

1. Define objectives basic to the administration of the Vocational Education Act of 1963, and aspects of other legislation administered by the Division of Vocational and Technical Education.
2. Identify and group the major items, measurements of which will serve to indicate program status under above objectives. Major groupings of items include: The People Served, The Education System, and The Needs of Employers and Concerns of Society. Items under each grouping are comprehensive and have been outlined in sufficient detail to provide for an analysis of progress and accomplishments; problems and unmet needs which need attention; recommendations for administrative or legislative changes or for research. The information is to be organized to serve as the basis for an evaluation report.
3. Develop a system which will provide measurement (qualitative as well as quantitative) of above items.
   a. Identify and compile data already available from annual reports furnish by States, results of research studies and special surveys, etc., inc luding research or surveys now underway or planned.
   b. Determine gaps in information needs; establish priorities, and initiate addtional research
4. Analyze findings in relation to established objectives.
5. Report on implications of evaluation findings for program planning and policy-making (this is to be a continuous process with reports on findings for parts of the system presented as they become available).

To be meaningful, evaluation of progress must include an analysis of the effectiveness with which available resources are utilized as well as how much of the total problem these resources can cover. As part of the evaluation process, questions will be raised as to the adequacy of funds and other resources needed to achieve optimums, considering population to be served, available capital and human resources, and estimated current and projected labor market needs. Measurements which will be developed to assist in analyzing progress toward achieving objectives should include:

a. Trends in numbers and characteristics of persons enrolled in and completing programs, compared with the estimated proportion of the population needing or desiring training (the population not served).

b. Success in terms of pre-employment information, such as educational achievements; demonstrations of basic knowledge or skills needed to earn a living; knowledge of world of work -- occupations, entry and progression requirements, salaries, etc.; work habits; attitudes; methods of self-appraisal; and knowledge of how to obtain a job.

c. Effectiveness in achieving objectives in terms of follow-up information (placement, job satisfaction, advancement, mobility, employer satisfaction, contribution to the community and other aspects of citizenship).

d. Effectiveness in terms of the ability of State administrations to plan and organize; to attract and hold students (particularly persons and groups still not reached by vocational

education opportunities); to provide sufficient numbers of well-trained teachers, facilities and equipment, instructional materials; to develop a Statewide system of area vocational-technical schools; to provide needed services such as guidance, placement and research; to anticipate new areas and adjust program offerings to reflect current and projected job openings; and to provide effective articulation between levels and types of schools assuring maximum flexibility for individuals seeking training.

e. Assessment in terms of cost effectiveness and other analyses of expenditures such as shifts among existing programs, allocation of funds to new programs, approached to balanced program offerings and other evidence of effective and flexible funding.

The evaluation system is designed to aid in the planning and decision-making process, provide a basis for recommendations for improving administration at all levels, and for necessary research.

Research

Significant impetus was given to the needs and contribution of research to the development and implementation of vocational and technical education in committee hearings and the resultant Vocational Education Act of 1963.

Provisions for research were included in Sec. 4(a), purpose (6) -- "Ancillary services . . . to assure quality . . . in programs, such as . . . special demonstration and experimental programs"; and in Sec. 4(c) -- Ten per centum of the sums . . . shall be used by the Commissioner to make grants to colleges and universities, and other public or nonprofit private agencies and institutions . . . to pay part of the cost of research and training programs and of experimental, developmental, or pilot programs . . . designed to meet the special vocational education needs of youths, particularly youths in economically depressed communities who have . . . handicaps that prevent them from succeeding in the regular vocational education programs."

The Division of Vocational and Technical Education works closely with the Division of Adult and Vocational Research. The Division also works closely with other research groups, agencies, and organizations in identifying problems and interpreting emerging needs and findings. All such information is being made available to the Regional and State staffs for their use in planning, program revamping, and implementation of new programs.

To assist States in coordinating all research, experimental, and demonstration and pilot programs, Vocational Education Research Coordinating Units (RCU's) have been established in 24 States, utilizing Sec. 4(c) funds. Twenty additional State applications are currently under review for possible funding prior to the end of the fiscal year. These Units will work with State staffs, institutions of higher education, and local staffs in the identification of needs, coordination of all research activities, and the dissemination of information.

In addition to Federal grants under Sec. 4(c), nine States have initiated research projects under the provisions of Sec. 4(a), purpose (6) of the Vocational Education Act of 1963.

CONCLUSION

The Federal Government currently provides funds for vocational education in about two-thirds of the public secondary schools enrolling 5.4 million students, half of whom are adults. In fiscal year 1965, local, State, and Federal expenditures for vocational education amounted to $562,678,430. This might be contrasted with the 2,012,931 enrollment and expenditures of $65,641,640 in 1945. In fiscal year 1965, school districts provided occupational training for 712,739 youth and adults in office occupations, a program which, prior to the Vocational Education Act of 1963, was not assisted by Federal funds.

The U.S. population continues to grow at a rapid rate. Population projections indicate an increase from approximately 160 million in 1960, to 214 million in 1970, and 260 million in 1980. Every year mechanization is driving thousands of farm workers and their families from their homes into the cities looking for jobs. Machines replace unskilled workers and even skilled and semi-skilled workers must cope with automation and technological change. It is estimated that more than two million jobs will be vacated over the next decade in the U.S. as a result of technological advance and improved productivity. The people that will be most severely affected are those who are the least educated or who have narrow or specialized skills rather than broad skills such as those of the craftsman.

At the same time, many new and additional jobs are being created. Projections indicate that by 1970, ten million service workers will be needed in the U.S., or two million more than in 1960. An additional five million skilled craftsmen will be needed during the same period. There

will also be a growing demand in the healh, distributive and marketing, office and business, and technical occupations.

Undoubtedly, the Vocational Education Act of 1963 will need improvement and expansion, but we are not prepared to make recommendations at this time. Under Section 12 of the new Act, an Advisory Council will be appointed shortly by the Secretary of Health, Education, and Welfare to make a thorough review of the program. As a result of this study, like the Willis Panel of Consultants study in 1962, recommendations will be forthcoming from the Secretary.